

A
GLOSSARY OF MINING TERMS.

With Illustrations and Geological Survey Map Signs.

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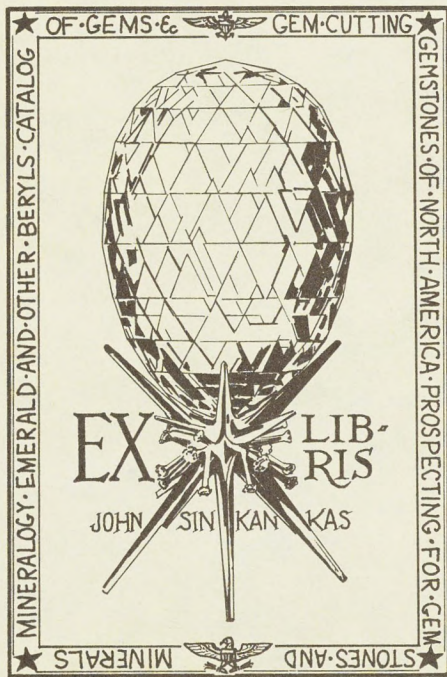
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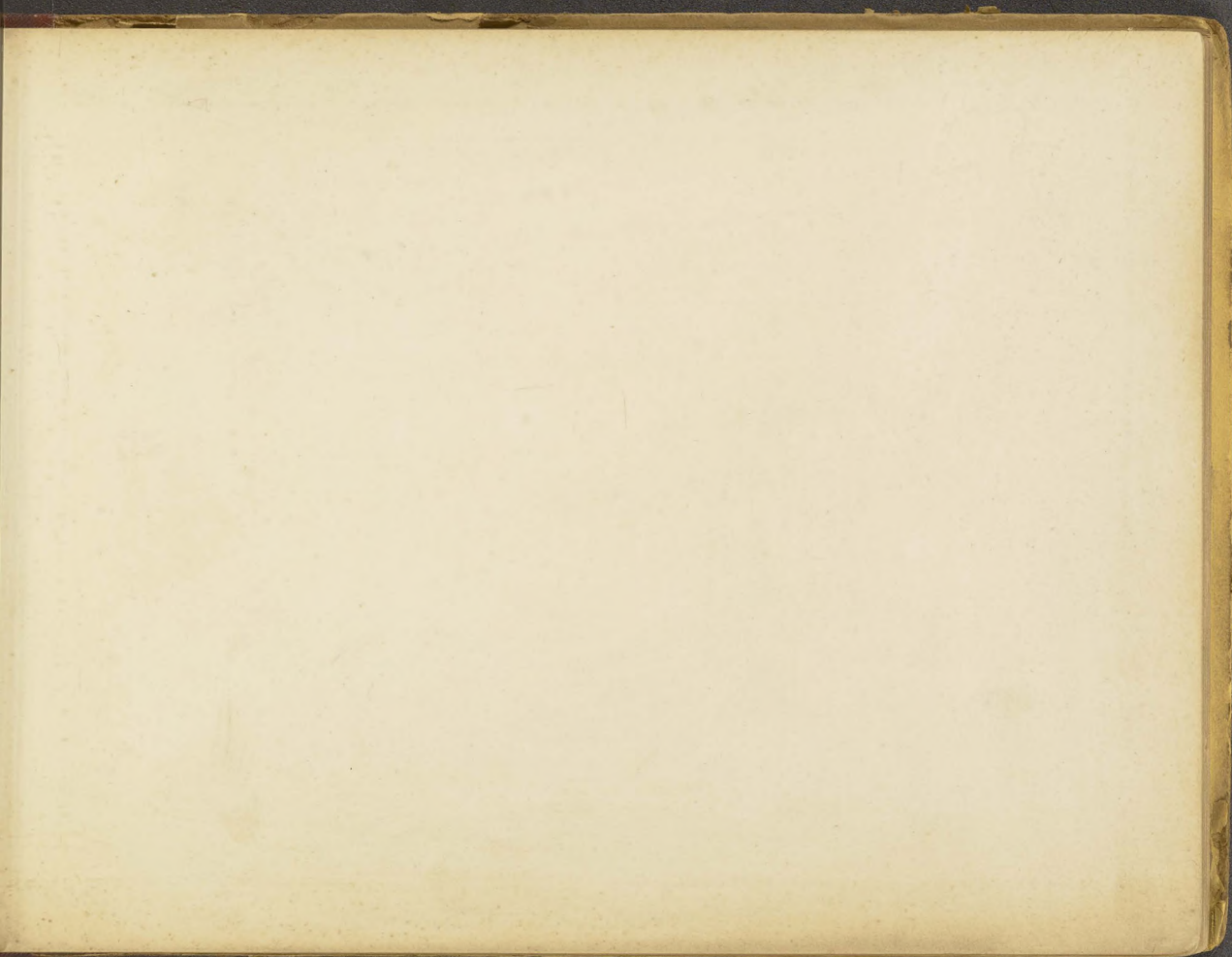
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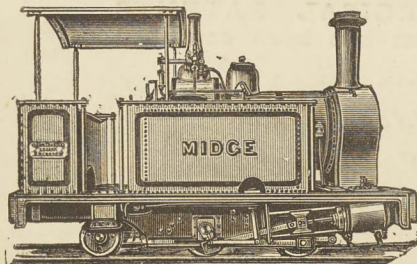
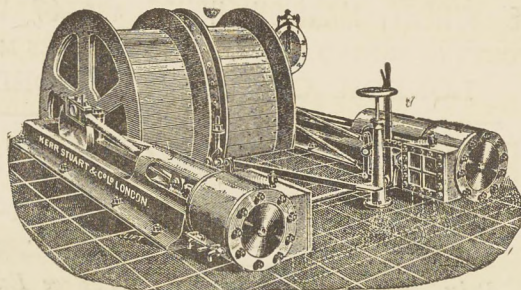
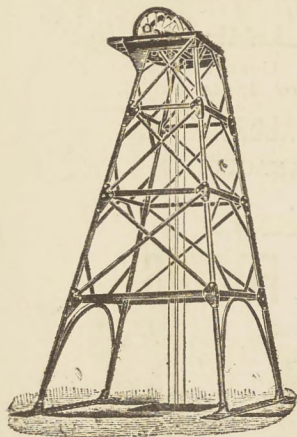
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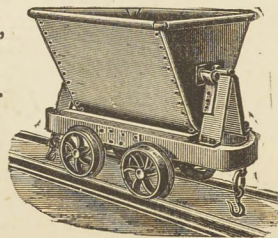
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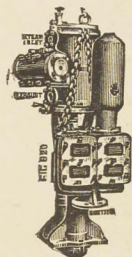
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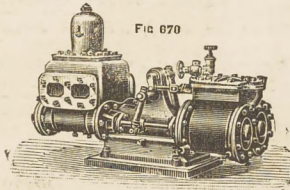
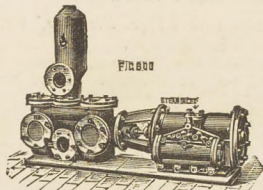
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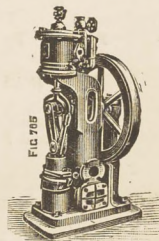
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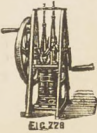
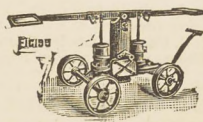
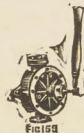
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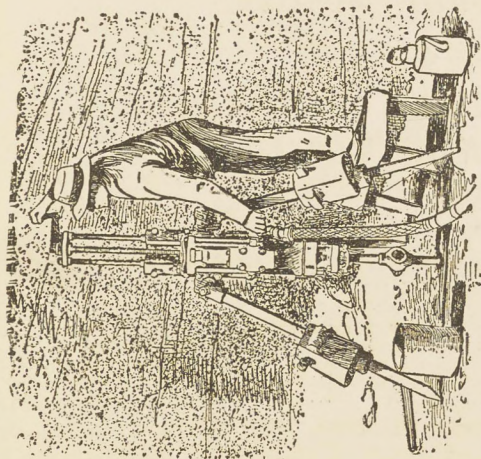
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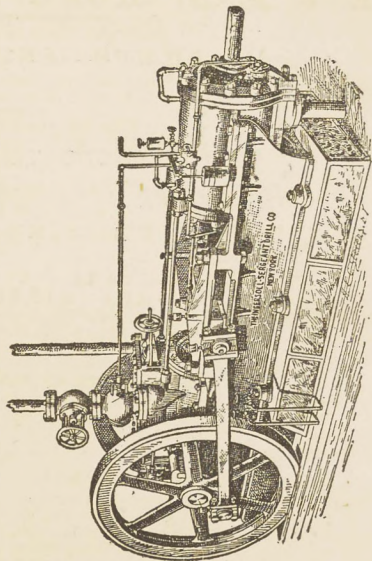


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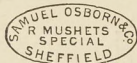
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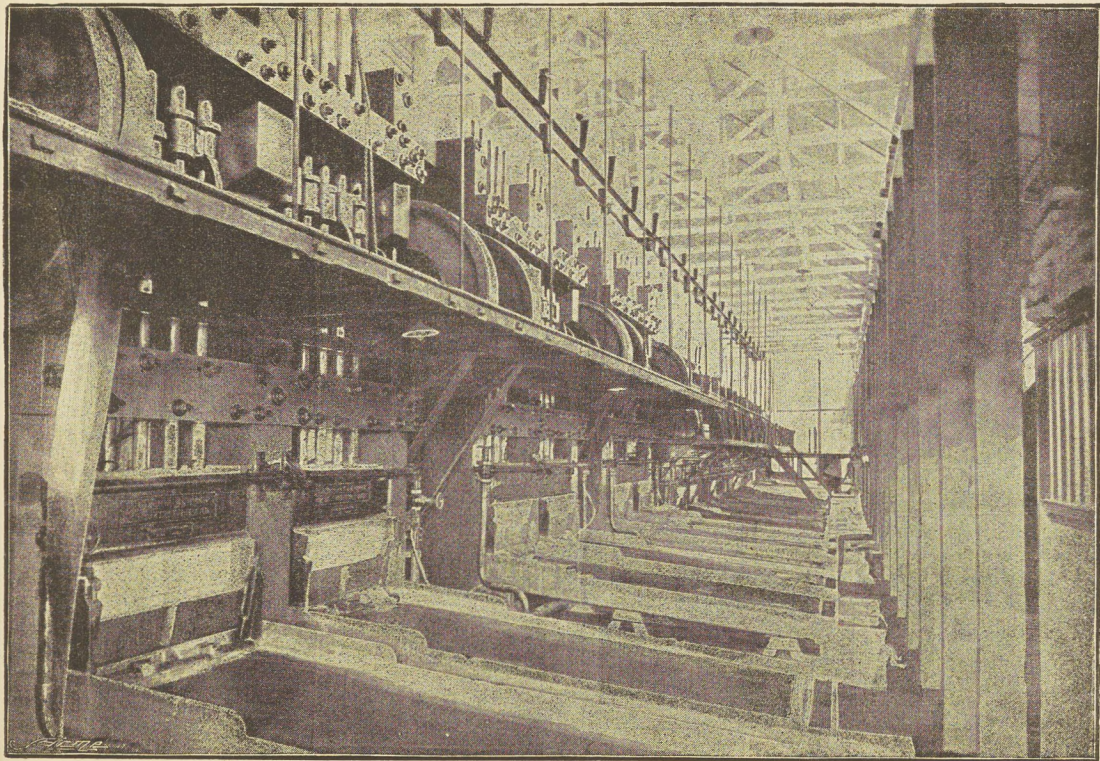
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A

ABATTIS (Leicester)—cross packing of branches or rough wood to keep roads open for ventilation

ACCOMPT (Cornwall)—settling day or place

ACREAGE RENT (England)—royalty or rent for working minerals

ADIT—a horizontal entrance to a mine driven from the side of a hill

ADLINGS (Northern England)—earnings

ADOBE (Spanish)—Sun-dried clay brick

ADVENTURERS—original prospectors, shareholders or partners in a mine

AFTER DAMP—poisonous or irrespirable gas resulting from explosions of fire-damp, chiefly carbonic acid gas and nitrogen

AGITATOR—settler, or an apparatus for catching such amalgam as may not have been caught in the pans and settlers

AIR BOX—wooden tubes 9 to 15 feet long, for ventilating headings or sinkings

AIR COURSE—ventilation channels

AIR CROSSING—a bridge carrying one air-course across another

AIR DOOR—a door for regulating air currents

AIR END WAY—ventilation levels running parallel with the main level or gate road, and connected with it at intervals

AIR GATE (Midlands)—ventilation ways

- AIR HEAD (Staffordshire)—*see* AIR GATE
- AIRLESS END—unventilated extremity of a stall in long-wall workings
- AIR LEVEL—an old level used for ventilating
- AIR SHAFT—a shaft sunk for ventilation purposes
- AIR SLIT (Yorkshire)—a short head between other air-heads
- AIR SOLLAR—an air-tight wood flooring in a level to allow the drainage to flow out, and cool air to pass in
- AIR STACK—ventilating chimney over a shaft
- ALBERTI FURNACE—a continuous reverberatory for mercury ores
- ALCAM (Wales)—tin
- ALIVE (Cornwall)—productive
- ALKALIS—potash, soda, and also ammonia and lithia. Alkalies turn vegetable blue, green, and vegetable yellow, reddish brown. Blues reddened by an acid are restored by an alkali. Alkalies neutralise acids, and with them form salts. They precipitate hydrates from their salts.
- ALLOY—commonly understood as a mixture of metals by fusion
- ALLUVIAL DEPOSIT—a deposit formed of matter washed down or otherwise transported by a natural agency from higher ground
- ALLUVIUM—*see* ALLUVIAL DEPOSIT
- ALUMINOUS—containing alumina
- AMALGAM—an alloy of mercury with another metal, usually gold or silver
- AMALGAMATION—the process of uniting mercury with gold or silver in an ore
- AMORPHOUS—without any crystalline or definite form
- AMURANG (Ceylon)—gold ore

- AMYGDALOIDAL—almond shaped
ANEMOMETER—instrument for measuring the velocity of wind or air currents
ANHYDROUS—without water in its composition
ANTHRACITE—hard, very pure coal
ANTICLINAL—when rocks are bent over in the form of a saddle or arch (Fig. 1, A)
APEX (American)—end or edge of vein nearest surface
APRONS (America)—copper plates next the battery mortar—stone or timber facings to a dam
AQUAFORTIS—name formerly applied to nitric acid
AQUA REGIA—a mixture of nitric and muriatic (hydrochloric) acid. One volume of strong nitric to three or four of hydrochloric acid is a good mixture
ARBORESCENT—of a tree-like form
ARCH (Cornwall)—portion of lode left standing to support hanging wall, or because too poor to remove; the roof of a reverberatory furnace
ARENACEOUS—sandy
ARENG (Borneo)—auriferous pay-dirt
ARGENTIFEROUS—silver-bearing
ARGILLACEOUS—clayey
ARIAN (Wales)—silver
ARM—the inclined leg of a set of timber
ARRASTRA—an appliance used for grinding ore. The ore placed on a circular trough is crushed by means of revolving mill-stones
ARROBA (Spanish)—25 lbs.
ARSENIDE—compound of a metal with arsenic

ASBESTOS—the usual mineral of this name is fibrous, and of a white, blue, or dull greenish colour, with pearly lustre

ASSAY—process for determining the amount of pure metal in an ore or alloy

ASSAY TON—a weight of 29.166 $\frac{2}{3}$ grms. As 1 ton of 2,000 lbs. av. contains 29.166 $\frac{2}{3}$ ozs. troy, every milligram of gold or silver obtained from 1 assay ton of ore represents 1 oz. troy per ton of 2,000 lbs.

ASSESSMENT WORK (Western America)—the annual work necessary to hold a claim

ASTEL—overhead boarding in a gallery

ASTYLLEN (Cornwall)—small dam in an adit to stop water; partition between ore and deads on grass

ATTLE or ATTAL (Cornwall)—refuse rock or waste

AUGET—priming tube

AUR (Wales)—gold

AURIFEROUS—gold-bearing

AVERAGE PRODUCE (Cornwall)—percentage or quantity of fine or pure copper in one hundred parts of ore

AVERAGE STANDARD (Cornwall)—price of pure copper in ore per ton

AXE STONE—a species of jade. It is a silicate of magnesia and alumina.

B

- BABY—a sifting machine for diamantiferous gravel
- BACK (Cornwall)—lode lying between an adit, drift or stope and the surface or the next working above
- BACK CASING—temporary shaft-lining of dry-laid bricks supported at intervals on curbs
- BACK END (Northern England)—the last portion of a judd remaining after the sump has been removed
- BACKING—timbers let into notches in the rock across the top of a level; the rough masonry faced with finer work; earth behind a retaining wall
- BACKING DEALS (Northern England)—vertical planks behind the curbs in a shaft
- BACK SHIFT—afternoon shift of miners
- BAHAR (Malay)—weight of 4 cwts.
- BAIT (North of England)—provisions of the pitmen
- BAL (Cornwall)—a mine
- BALANCE BOB—a heavy counterpoise to pump rods
- BALK (Northern England)—a hitch causing a nip
- BALLAND (Derbyshire)—pulverulent lead ore
- BAND (Northern England)—stone interstratified with coal

- BANDDOON—a peculiarly marked pebble, streaked with parallel rings, often indicates the presence of diamonds
- BANK—surface at pit's mouth; deposit worked by surface excavations or drifts above water level; face of coal where runners are working
- BANK CLAIM—a mining claim on the bank of a stream
- BANKET (South Africa)—a gold-bearing conglomerate in which are quartz pebbles
- BANK RIGHT (Australia)—right to divert water to bank claim
- BAR—a course of rock, of a different nature to the vein stone, which runs across a lode; a hard ridge of rock or sandbank crossing a stream is called a bar in Australia, on the upper side of which gold is likely to be deposited; a drill or tamping rod
- BAR DIGGINGS (Western America)—auriferous claims on shallow streams located on "bars," and worked, when the water is low, or by coffer-dams
- BARGAIN—portion of mine worked by a gang on contract
- BARMASTER (Derbyshire)—mine official who collects the dues, &c., and pre-sides over the Barmote
- BARMOTE (Derbyshire)—mining court
- BARREL QUARTZ—crumpled bed of quartz (Fig. 2)
- BARRIER-PILLARS—pillars of coal, larger than ordinary, left as supports when the ground comes to be robbed
- BARROWS—dumps or heaps of waste stuff raised from the mine
- BASE METALS—metals other than gold, silver, mercury, and the platinum group
- BASIN—a trough-like depression of strata in the earth's crust (synclinal)
- BASS (Derbyshire)—indurated clay (also called batt, bind, or bond). Shaly coal
- BASSET—outcrop of a lode or stratum

BATCH (Corn)—the amount of ore sent to the surface by a pare or gang of men.
An assorted parcel of tin

BATEA—a small slightly conical dish, generally about 20 inches in diameter, and $2\frac{1}{2}$ inches deep, in which gold-bearing soil is washed

BATT—*see* BASS

BATTER—the front slope of a face of masonry

BATTERY—sets of stamps, usually five

BEACH-COMBING—working the sands on a beach for gold, &c.

BEARING—*see* STRIKE

BEATAWAY—to work hard ground by means of wedges and sledge hammers

BEANS (Northern England)—small coals. The productive portions of a tin stream

BEAN SHOT—copper granulated by pouring into hot water

BEAT DOWN (Cornwall)—to cut away a lode

BED—a stratum, layer, or deposit that is a member of a series of stratified rocks; the layer above is called the roof, that below is the floor; the thickness is the distance from roof to floor, measured at right angles to the plane of stratification.

BED CLAIM (Australia)—a mining claim on bed of stream

BED ROCK—the rock underlying an alluvial deposit, and on which at a gold digging, the most payable “dirt” usually rests

BED-VEIN—a bedded lode parallel with the stratification of the enclosing rock (Fig. 3)

BELLY—a swelling mass of ore in a lode

BEN (Cornwall)—productive

BENCH (Australia)—a terrace on the side of a river. Auriferous benches are termed reef wash. Divisions in a coal seam separated by clay, &c. To cut coal in layers or benches

- BENCHING UP (Northern England)—working on top of coal
 BEND (Derbyshire)—indurated clay
 BENHEGL (Cornwall)—flowing tin stream
 BETING (Malay)—quartz matrix carrying gold
 BIND (Derbyshire)—indurated clay
 BING (Northern England)—8 cwt. of ore
 BING HOLE (Derbyshire)—an ore shoot
 BING ORE (Derbyshire)—first class lead ore in lumps
 BING TAIL (Northern England)—ore given to the miner for his labour as tribute
 BLACK AMBER—jet
 BLACK BAND—an earthy carbonate of iron, containing much bituminous matter
 BLACK CHALK—a variety of clay containing carbon
 BLACK COPPER—impure smelted copper
 BLACK DAMP—carbonic acid gas
 BLACK ENDS—refuse coke from coke ovens
 BLACK FLUX—charcoal and potassium carbonate
 BLACK JACK—zinc blende of a dark variety
 BLACK LEAD—graphite
 BLACK SAND (Australia)—name given to magnetite and titaniferous iron and other minerals accompanying gold
 BLACKSTONES—*see* under TOADSTONES
 BLACK TIN—tin ore ready dressed for smelting
 BLANCH—lead ore mixed with other minerals ; a piece of ore found isolated in hard rock

- BLANCHED COPPER—copper alloyed with arsenic
 BLANKET STRAKE (Australia)—sloping tables or sluices lined with baize or blanketing for catching gold
 BLENDE—sulphide of zinc
 BLIND CREEK—a creek, dry, except during wet weather, or after a freshet.
 BLIND LODGE—one that does not show surface croppings
 BLIND LEVEL—a level unconnected with other workings; a drainage level with shaft at each end, acting as an inverted syphon
 BLIND SHAFT—a shaft not coming to the surface; *see* WINZE
 BLOCK TIN—cast tin
 BLOCK CLAIM (Australia)—a claim pegged out on the dip of a reef beyond the sides of the surface claims in which the vein outcrops
 BLOCK REEF'S (Australia)—those with frequent longitudinal contractions
 BLOCKING OUT (Australia)—washing gold-bearing matter in square blocks; working deep leads in blocks; preparing a vein for stoping
 BLOOMARY—a forge for making wrought iron direct from the ore
 BLOSSOM—the decomposed outcrop of a vein or coal-bed
 BLOSSOM ROCK—coloured vein stone detached from an outcrop
 BLOW—a large increase in the size of a lode; a mass of quartz or ironstone not connected with a lode
 BLOWER (Northern England)—an outrush of gas; a machine for forcing air into a mine or furnace
 BLUE GRAVELS—name given to a series of auriferous gravels in Western America
 see BLUE LEAD

BLUE GROUND (S. Africa)—a diamantiferous, hard, dark greenish-blue cement, found in crater-like deposits below the zone of surface oxidation

BLUE LEAD—a blue-stained stratum of gravel and cement found in the ancient river beds of California

BLUE PEACH (Cornwall)—a slate-blue fine-grained schorl

BLUE STONE—copper sulphate

BLUE ELVAN—greenstone

BLUE JOHN—fluor spar

BLUFF—a high bank or hill with precipitous front

BOARD or BORD—the excavations in pillar-and-stall work

BOG IRON ORE—loose earthy brown hematite recently formed in swampy ground

BOKE—a small pipe of ore connecting lodes

BONANZA—a large and rich body of ore

BONE—slaty matter in coal seams

BONGKAL (Straits Settlements)—a gold weight, equal to 832.84 grains 20 bongkals, equal to 1 catty

BONNET—the roof of a cage

BONNEY (Cornwall)—an isolated body of ore

BONZE—undressed lead ore

BOOMING—removing gravel by sudden outlets of pent-up water

BOOSE—part of a vein containing round lead-ore

BORNASCA—an unproductive mine

BORD & PILLAR—*see* PILLAR & STALL—a bord, board, bord-gate or brow is any gallery driven across the “face” of coal or ore

BORT—opaque dark diamond

- BOTRYOIDAL—with surface of rounded prominences, grape-like bunches
- BOTTOM—bed rock
- BOTTOMS—impure copper or alloy formed below the matte in smelting; the deepest workings
- BOULDER CLAY—stiff clay forming glacial drift
- BOULDERS—loose rounded masses of stone detached from the parent rock
- BOUNCE—to work a drill by causing it to rise and drop
- BOUNDS (Cornwall)—a tract of tin ground
- BOUT (Derbyshire)—24 dishes of lead ore (a long bout), or 12 dishes (a short bout).
- BOWKE (Staffordshire)—small wooden box for hauling ironstone underground
- BOWSE or BOUZE (Derbyshire)—lead ore as cut from the lode
- BRACE (Cornwall)—mouth of a shaft; the landing platform at the head of an incline shaft; inclined bar or strut acting as stay
- BRAIZE (America)—charcoal dust
- BRANCES—iron pyrites in coal
- BRANCH—small string of ore in connexion with the main lode
- BRASSES—iron pyrites in coal
- BRAKE SIEVE—hand jigger
- BRAT—a thin bed of coal mixed with pyrites or limestone
- BRATTICE—a lining or partition of plank, cloth, or brick, to aid ventilation in a shaft, level, or gangway
- BRAZIL (Northern England)—iron pyrites in coal
- BREAST—the face or standing end of rock or lode immediately in front in a working; timber across a drive behind the main timber.

- BRECCIA—a rock in which angular fragments are cemented together
BRECCIATED LODES—veins made up of broken materials
BREEZE—small coke
BRETTIS (Derbyshire)—a timber crib filled with slack
BROB—a spike to prevent timber slipping
BROIL or BROYL (Cornwall)—traces of a vein in loose matter
BROOCH (Cornwall)—mixed ores
BROOD (Cornwall)—heavy waste from tin and copper ores; Mundic or Black Jack
BROWN COAL—lignite
BROWNSPAR—a kind of dolomite, containing, in addition to the carbonates of lime and magnesia, some carbonate of iron
BROWNSTONE (Australia)—decomposed iron-stone outcrop
BROWSE—imperfectly smelted ore, mixed with cinder and clay
BRYLE (Cornwall)—*see* BROIL
BUCKING—breaking down ore with a very broad hammer ready for sorting
BUCKSTONE—rock not producing gold
BUDDLE—an inclined stationary or revolving, shallow cone-shaped table, on which ores are dressed
BUHRSTONE—quartz containing cellulose
BULKHEAD—a water-tight partition or stopping in a level or shaft; the end of a flume carrying water for hydraulicing
BULLDOG—furnace lining of iron oxide
BUNCH—a small, rich deposit of ore of irregular shape

BUNCHY LODES—lodes in which bunches occur, the latter sometimes having a tendency to arrange themselves in accordance with the dip or cleavage of the surrounding rocks

BUNDING—a staging in a level for carrying débris resting on the stulls

BUTTON—name given to the globule of metal which remains in the cupel after fusion. Also applied to the globules of a metal left in the slag from fusion or scorification

BUNNEY—a nest of ore not lying in a regular vein

BURDEN—earth over-lying a bed of useful mineral; the tops or heads of stream-work above the stream-tin; the ore and flux in a blast furnace charge

BURR—solid rock

BURROW—refuse heap

BUTT—coal surface exposed at right angles to the face

BUTTY (Midlands)—a contract miner working at so much per ton

BYON—ruby-bearing earth in Burmah

(17)

C

CAB—parts of a lode near the walls, partly detached from them, and likely to slip off

CACO (Brazil)—a white quartz

CAGE—the iron vehicle used to convey men, &c., up and down a shaft; the hollow drum of a horse whim, round which the rope is wound

CAGE-SEAT—scaffolding sometimes filled with springs, to take off the shock upon this the cage drops when reaching the mine bottom

CAGE-SHEETS—short props or catches on which cages stand during caging or changing tubs.

CAIRNGORM—a variety of transparent coloured quartz, frequently used as an ornament

CAJON (Bolivio) = 50 quintals (1 quintal = 100 lbs.)

„ (Peru) = 60 „

„ (Chili) = 64 „

[One marco of gold per cajon of ore = 2 oz. 14 dwt. per ton.]

CAKE—agglomeration, as when ore sinters together in roasting; retorted amalgam

CAL (Corn)—wolfram

CALCINE—to drive of volatile matter by exposing the substance to a gentle heat, &c.

- CALCITE—crystallised carbonate of lime
CALICHE (Chili)—saltpetre deposit
CALIFORNIAN PUMP—a pump made of a wooden box through which circulates an endless belt with floats ; used for pumping from shallow ground
CALLUM (Australia)—native term for auriferous quartz
CALLYS (Corn)—stratified rocks traversed by lodes
CAM—an arm attached to the revolving shafts for raising stamps ; carbonate of lime or fluorspar, found upon the joints of lodes
CAMBRIAN—name given to the oldest (except the Archean) of the stratified rocks. Found in Wales
CAMPAIGN—length of time a furnace remains in blast
CANCH—part of a bed of stone worked in quarrying
CAND (Cornwall)—fluorspar
CANGRA (Brazil)—a kind of auriferous conglomerate
CANK (Derbyshire)—whinstone
CANKER—the ochreous sediment in coal pit waters ; being bicarbonate of lime, precipitated by the action of air upon that mineral
CANNY—lode containing beds of carbonate of lime and fluorspar is called canny
CAÑON—a deep gorge
CANTS—the pieces forming the ends of buckets in a water wheel
CAP—the upper portion of a lode ; a piece of wood placed on props or legs in a drive
CAP ROCK—the formation above the ore ; the rock that covers the older bed rock
CAPLE or CAPEL (Cornwall)—quartz, schorl and hornblende ; also indication of manganese lodes

- CARAT—weight, of $3\frac{1}{8}$ Troy grains, used for diamonds and precious stones. With goldsmiths and assayers the term carat is applied to the proportions of gold in an alloy ; 24 carats represent fine gold. Thus, 18-carat gold signifies that 18 out of 24 parts are pure gold, the rest some other metal
- CARBONA—a rich bunch of ore in the country rock connected with the lode by a mere thread of mineral ; an irregular deposit of the ore
- CARBONATE—compound formed by union of carbonic acid with a base
- CARBONACEOUS—containing carbon, generally as coal
- CARBONADO—bort or black diamond
- CARBONIFEROUS—geological term for a series of rocks associated with coal measures
- CARBURET—a compound of a metal with carbon
- CARGA (Spain)—a mule's load = 300 lbs.
- CARRACK—*see* CAPEL or CAPLE
- CASCAHLO (Brazil)—a kind of gravel, auriferous and diamondiferous
- CASCAJO (South America)—a decomposed schist on which pay-dirt lies
- CASE—a fissure admitting water into a mine
- CASING—material between a reef and its walls ; a timber partition dividing a shaft into compartments ; the lining of a shaft
- CATCH-PIT—a reservoir for saving tailings
- CATEAR (Spain)—to search for minerals
- CAUF (North England)—a coal bucket or basket
- CAUNTER-LODE—a lode which inclines at a considerable angle with the direction of the other lodes in the vicinity

CAWK—barium sulphate; a variety of heavy spar

CELLULAR—containing cavities

CEMENT—a gravel the particles of which are cemented together

CEMENTATION—the process of converting wrought iron into steel by heating it in contact with charcoal

CERRO (Spain)—rocky hill

CHAIN—a measure of 66 feet long divided into 100 links

CHALDRON (North England)—53 cwt. or 36 bushels

CHAMPION LODE—main lode

CHAPEAU DE FER—French term for “Gossan”

CHARGE—the material fed into a furnace at one time; amount of powder used for blasting

CHATS (North England)—small pieces of stone with ore

CHECK—*see* FAULT

CHEEKS—walls of a vein

CHERT—a mineral like flint, but of coarser texture and more brittle. Contains lime in addition to silica

CHILIAN MILL—an improved arrastre, with a stone wheel rolled round the bed

CHILI BARS—bars of impure copper weighing about 200 lbs., imported from Chili and corresponding to the Welsh blister copper containing 98 % copper

CHIMNEY—an ore-shoot

CHINESE PUMP—like the Californian, but made entirely of wood

CHOKEDAMP—carbonic acid gas

CHLORIDE—compound of chlorine with another element

CHURN-DRILL—a long iron bar with a cutting end of steel used in quarrying, and worked by raising it and letting it fall, usually termed a Jumper

CHUTE—*see* SHOOT

CLAIM—land staked off by the prospector as his mining property

CLACK—a common pump-valve

CLAGGY (N. England)—when coal is tightly joined to the roof

CLAVO (Mexico)—a rich “pay” chimney limited horizontally

CLAY COURSE—a clay seam found at the sides of some veins

CLAY-SLATE—name given to argillaceous stratified rocks which cleave across the planes of stratification

CLEAN-UP—to collect all the particles of quicksilver and amalgam about a battery after crushing

CLEAVAGE—the property some rocks possess of splitting into layers or laminæ

CLEAT—a joint in a rock ; a wedge

CLOD—soft shale or slate forming a bad roof

COARSE LODE—one not rich

COARSE METAL—in the smelting of copper, the matte containing the copper, &c., concentrated in it after the first smelting

COAL-PIPES (North England)—very thin irregular layers of coal

COB (Cornwall)—to break up by hand-hammer ore for sorting

COBRE—Cuban copper ore

COCKADE ORES—*see* RING ORES

COCKLE (Cornwall)—black tourmaline, often mistaken for tin. Also termed Schorl

COD (North England)—the bearing of an axle

- COFER (Derbyshire)—to caulk a shaft by ramming clay behind the lining
- COFFER—the iron mortar box in which stamps work
- COFFER DAM—an inclosure built in the water and then pumped dry, so as to permit work to be carried on inside of it
- COFFIN (Cornwall)—an old open-working
- COIL DRAG—a tool for picking pebbles, &c., from drill holes
- COLOUR—(to show) an Australian expression when rock or gravel shows traces of gold
- COLORADOS (South America)—red ores (stained by oxide of iron), similar to "gossan." Called also Pacos
- COLOURS—particles of gold found in panning a sample
- COL-RAKE—a shovel for stirring lead ores while washing
- COMPACT—of a firm texture
- COMBY LODES—ribbon-like structure of some lodes containing drusy cavities; plates or combs of crystalline mineral, the separate crystals being arranged with their longer axes at right angles to the lodes
- CONCENTRIC—having the same centre
- CONCHOIDAL—name given to a certain kind of hollow fracture
- CONCRETION—a cemented aggregation of one or more kinds of materials around a nucleus
- CONDUIT—a covered waterway
- CONFORMABLE—strata are conformable when they lie one over the other with the same dip
- CONGLOMERATE—rounded stones cemented together to form a rock
- CONTACT LODE—one lying between two distinct kinds of rock (Fig. 4)

- CONTOUR—the line that bounds the configuration of ground, &c.
 CONTOUR RACE—a watercourse following the contour of the land
 COPE (Derbyshire)—lead mining on contract by the dish or other measure
 COPPER REGULUS (or MATTE)—sulphides of copper and iron, usually containing sulphides of nickel, cobalt and lead, &c., as impurities
 CORBOND—an irregular mass or dropper from a lode
 CORD—a pile of wood 8 feet \times 4 \times 4 feet = 128 cubic feet
 CORE—the working shift of a Cornish miner
 CORF—*see* CORVE
 CORVE—a mining waggon or tub
 COST-BOOK SYSTEM (Cornwall)—a system by which the shares are subject to unlimited calls and forfeiture in case of non-payment
 COSTEAN (Cornwall)—to prospect a lode by sinking pits on its supposed course, trenching for a lode
 COSTEAN PITS—trenches cut at right angles to the strike of the lode
 COUNTRY—the geological formation traversed by a lode
 COUNTRY ROCK—the rock on either side of the lode
 COURSE OF A LODE—its direction
 COW—a self-acting brake for incline-planes
 COYOTING (West America)—irregular mining by burrowing
 CRAB—a kind of windlass or capstan worked by winch or hand-pikes
 CRAB-HOLE (Australia)—water-worn holes in bed rock of alluvials
 CRADLE (Australia)—a wooden box with a sieve mounted on rockers for washing gold dirt

- CRAMP—a pillar left for support in a mine; angle irons in Cornish stamp batteries
- CRANCH—part of a vein left by previous workers
- CREADERO (South America)—indication of gold
- CREAZE (Cornwall)—the tin ore collected in the middle of the buddle
- CREEP—the gradual movement of walls or floors of a mine, caused by the vertical and lateral pressure of the rocks
- CREEK—a stream, usually navigable for small boats
- CRETACEOUS—chalky; usually applied to fossiliferous limestone
- CREVICING—collecting gold in the crevices of rocks
- CRIB—a timber or iron frame upon which tubbing or the brick lining of a shaft is built; miner's dinner
- CRIBBLE—a sieve
- CROP (Cornwall)—the richest portion of dressed tin ore
- CROPPINGS—parts of the vein above the surface
- CROSS-COURSES—veins which usually cross the main lode at right angles
- CROSS-CUT—a tunnel or level driven across the regular lode, or workings of a district; if for ventilation, it is usually termed cross-heading
- CROSS SPUR—a vein of quartz that crosses the reef
- CROSSES & HOLES (Derbyshire)—a hole made in the ground by the discoverer of a lode to temporarily secure possession
- CROW-FOOT—a tool for drawing broken boring rods
- CRUCIBLES—fire-proof vessels used in the roasting and melting of ores, &c.
- CRYSTALLIZED—having well defined crystals

CUBICAL—of the shape of a cube

CULM (England)—inferior anthracite ; (North America) fine waste coal and dirt of smokeless coal

CUPOLA (Corn-Cupelo)—a small furnace

CURB—a timber frame in a shaft to make a foundation for walling or tubbing

CUT—to intersect the lode, usually at right angles ; to excavate in the side of a hill

CUTTING-DOWN—to cut down a shaft is to increase its size

D

DAM—a barrier for water, air or gases

DAMP—dangerous gas (light carburetted hydrogen, carbon dioxide, &c.) escaping from the mineral formation in a mine; fire damp, choke damp, ground damp, &c.

DAN (North England)—a truck without wheels

DANT (North England)—soft inferior coal

DATUM LEVEL—the level at which a survey commences

DEAD—unproductive; unventilated

DEAD MEN'S GRAVES (Australia)—grave-like mounds in the basalt underlying auriferous gravels

DEAD RICHES (North America)—lead carrying much bullion

DEAD ROASTING—roasting till all sulphur is driven off

DEAD WORK—unproductive work

DEADS—ore that will not pay for working; waste or rubbish in a mine; broken down payable ore in the stopes

DEAN (Cornwall)—the end of a level

DEBRIS—disintegrated rock deposit

DECANT—to pour off liquid (from the sediment) out of one vessel to another

- DECREPITATE—to crackle and fly to pieces when heated.
- DELTA—the alluvial land at the mouth of a river : usually bounded by two branches of the river, so as to be of more or less triangular form
- DENUDATION—laying bare rocks by water or other agency
- DEOXIDATION—the removal of oxygen
- DEPOSIT—matter laid or thrown down, or precipitated from solution : for instance, mud, sand, ashes, ore, &c.
- DESSICCATION—the act of drying
- DESUE (Cornwall)—to cut away the ground beside a thin vein so as to remove the latter whole
- DETRITAL—*see* DEBRIS
- DEVELOPMENT—work done in opening up a mine
- DEVILS DICE—cubic iron pyrites changed to black iron
- DIAGONAL—from one corner to another opposite
- DIALLING—surveying a mine by means of a dial
- DIE—the block in a battery mortar, on which the shoe strikes
- DIG (Cornwall)—a gouge or layer of soft material on the wall of a ban
- DILLUING (Cornwall)—dressing tin slimes in a fine sieve
- DILUVIUM—drift deposit
- DIORITE—crystalline, whitish, speckled black, or greenish black rock ; chiefly consisting of felspar and hornblende, often with accessory minerals
- DIP—the angle which the lode or bed makes with the horizontal is called the dip
- DIPPA (Cornwall)—a small catch-water pit
- DIPPING-NEEDLE—a compass with the needle swinging in a vertical plane

DISH (Cornwall)—an ore measure : in lead mines a trough 28 in. long, 4 in. deep, and 6 in. broad ; sometimes 1 gal. $\frac{1}{4}$ ths pints

DISSEMINATED—scattered throughout a rock in the form of small fragments

DISTILLATION—the driving off vapours from a substance, and allowing them to condense on another surface or vessel

DIVIDER—*see* under LEADER

DISSUE (Cornwall)—*see* DESUE

DOGGERS—nodules of ironstone

DOLERITE—a kind of basaltic rock

DOLES—small piles of assorted or concentrated ore

DOLLY TUB (Australia)—a tub used in washing gold ore being agitated by a “dolly” or perforated board ; a machine for crushing, being a rough pestle and mortar, the former being attached to a spring pole by a rope (Fig. 5) ; pestle and mortar

DOLOMITE—a mineral composed of the carbonates of lime and magnesia ; magnesian limestone

DONK (North England)—soft mineral found in cross veins

DRADGE (Cornwall)—inferior ore separated from the prill ; pulverized refuse

DRAG—resistance to the passage of an air current

DRAFTAGE—a deduction from the gross weight of ore when transported to allow for loss

DRAW A CHARGE—to take a charge from the furnace ; to withdraw the blasting charge after a misfire

DRESSER (Staffordshire) - a large coal pick ; cleaner of ore

DRESSING—preparing ore for metallurgical operation

- DRESSING FLOORS—the floors where ores are dressed
- DRIFT—a loose alluvial deposit ; a horizontal passage in a mine : a drift follows the vein, a cross-cut intersects it, a level or gallery may do either
- DRIFTING—winning pay dirt from the ground by means of drives
- DRIVE or DRIVINGS—horizontal tunnels or passages in a mine
- DROPPER—a branch leaving the vein on the footwall side ; a feeder
- DRUGGON (Staffordshire)—a vessel for carrying fresh water into a mine
- DRUSE—a hollow space in veins lined with crystals
- DRYBONE—a term used in America for Calamine (carbonate of zinc)
- DRY ORE—argentiferous ores that do not contain enough lead for smelting purposes
- DUCK MACHINE—an arrangement of boxes, one working within the other, for forcing air into mines
- DUCTILE—that can be drawn out into wire or threads
- DUMB'D—choked (of a sieve or grating)
- DUMP—the place where ore taken from a mine is deposited ; the pile of mullock
- DUNES—small hills formed by sand blown together by the wind
- DURN (Cornwall)—a timber frame
- DUTY—number of lbs. of water raised one foot high by a bushel of coal ; Government tax on mineral raised
- DUST GOLD—pieces under 2—3 grains
- DYKE—intruded igneous rock which fills up fissures and rents in stratified rocks
- DZHU (Cornwall)—*see* DESUE

E

- EARTHY COAL—name sometimes applied to lignite or brown coal
- EFFLORESCENCE—an incrustation of powder or threads, due to the loss of the water of crystallisation
- EISENER HUT—German miners term for Gossan
- ELBOW—a sharp bend, as in a lode or pipe
- ELECTROLYSIS—separating chemical compounds into their component parts by means of electricity
- ELVANS—a Cornish name applied to most dyke rocks of that country; now mostly restricted to quartz porphyries
- EMERY—compact form of corundum; is hard enough to scratch quartz and several gems
- END OF COAL—the butt, direction or section at right angles to the face
- EPACTIC—used of such deposits as, in a geological sense, were introduced subsequently into the surrounding rock
- EROSION—the wearing away of rocks
- ESCARPMENT—a nearly vertical natural face of a rock or ground
- EVAPORATE—to cause to become a vapour
- EXEMPTED CLAIM (Australia)—a mine allowed to remain some time unworked

EXPLOITATION—the productive working of a mine

EYE—rich ore chutes. The eye of a shaft is the top ; the opening at the end of a tuyere ; the hole in a pick or hammer head that receives the handle

F

- FACE—the extreme end of tunnel or other mining excavation ; the face of coal is the chief cleavage-plane at right angles to the stratification
- FAHLBANDS—belts or zones of crystalline rocks of great length and breadth impregnated with finely-divided metallic sulphides
- FALSE BEDDING—where the rock laminae, though for a short distance parallel to one another, are oblique to the general stratification of the mass. Irregular lamination
- FALSE-BOTTOM—in alluvial mining the term is applied to a stratum on which pay dirt lies but underneath which are other bottoms
- FALSE-SET—a temporary set of timber placed in a drive
- FAMP (North England)—thin beds of soft tough shale
- FANEGADO (Spain)— $90 \frac{1}{3}$ fanegados = 150 acres
- FANG (Derby)—an air-course
- FAST—term applied in Cornwall to solid rock immediately beneath the surface dirt
- FATHOM—6 feet
- FAULT—dislocation in a rock, load, or seam ; known among miners as a slip, slide, heave, throw, trouble, or check. Faults are sometimes perpendicular, and do not then cause any perpendicular displacement. NORMAL-FAULT—a dislocation such that the portion of the bed that lies on the incline or upper side of the fault appears to have slipped down relatively to the position of the

remaining portion. In normal faults this slip is in the direction of the large angle, and a vertical line from the upper portion does not intersect the lower dislocated portion. **OVERTHRUST, REVERSED, OVERLAP FAULT**—a dislocation in which that portion of the lode above the fault appears to have been pushed up in the direction of the smaller angle, and a vertical line from the upper portion can intersect the lower portion. Such faults as these are exceptional. **DIP-FAULT**—a displacement parallel or nearly so to the dip. **STEP-FAULT**—a series of parallel and step-like faults, with their throws all in the same direction. **STRIKE-FAULT**—a displacement parallel to, or nearly so, and along the line of strike (Figs. 6, 7, 8)

FEATHER-ORE—a sulphide of lead and antimony

FEATHER-EDGE—a passage from false to true bottom

FEEDER—a small vein running into a main lode

FEIGH (North England)—ore refuse

FENCING—fencing in a claim is to make a trench around the boundaries of an alluvial claim to prevent wash-dirt from being worked out by adjoining claim holders

FERRUGINOUS—iron-containing

FILTER—to remove the particles of matter in a liquid by pouring it on to some substance, such as filter paper, so that the liquid runs through clear, leaving a solid residue behind

FIRE-DAMP—light carburetted hydrogen

FIRSTS—the best ore picked from a mine

FISSURE—a crack or rent in rocks

FLATS—narrow decomposed parts of limestone strata which have become mineralised; horizontal parts of a vein. These flats sometimes extend for a long distance horizontally, though they are not very thick

- FLAT-SHEET—sheet-iron floor at the brace and in the flats, chambers, and junctions of drives, to facilitate the turning of trucks
- FLANG (Cornwall)—a double-pointed pick
- FLAT-WALL (Cornwall)—foot-wall
- FLEXIBLE—capable of being bent, but not elastic
- FLINT—a massive impure variety of silica
- FLOAT—detached fragments of a quartz reef
- FLOAT-GOLD—very fine gold dust which floats in running water
- FLOATING-REEF—lumps of auriferous quartz found in alluvial beds
- FLOAT-STONE—a cellular quartz rock; the honeycombed quartz detached from a lode is often called float-stone
- FLOOKAN—*see* FLUKAN
- FLOOR—the layer immediately beneath a metalliferous bed; a false bottom
- FLORAN (Cornwall)—very fine tin
- FLOURING—the breaking up of mercury by excessive stamping into very fine white particles, rendering it useless for amalgamating purposes
- FLOURED MERCURY—*see* FLOURING
- FLOUR GOLD—the finest gold dust
- FLUKAN (or FLUCAN)—a vein filled with a soft greasy clay crossing or running in or under a lode. *See* also SELVAGE
- FLUKE—a rod for cleaning out drill holes
- FLUME—apparatus (boxing or piping) used for conveying water from higher ground to alluvial gold diggings—artificial water-course
- FLUMING—lifting a river out of its bed with wooden launders or pipes in order to get at the bed for working

- FLUSH—splitting of the edge of stone under pressure
- FLUX—a substance used to promote the fusion of metals in the reduction of ore
- FODDER (North England)—21 cwt. of lead
- FOLIATED—arranged in a leaf-like laminæ (such as mica-schist)
- FOOT (Cornwall)—2 gals. or 60 lbs. black tin
- FOOTHOLE—holes cut in the side of a shaft or winch to enable miners to ascend or descend
- FOOTPIECE—a wedge, or slab, on the footwall against which a stall piece is jammed; a piece of wood in the floor of a drive to support a leg or prop of timber
- FOOTWALL—the underwall of a lode
- FOOTWAY—ladders by which miners descend or ascend the shafts of a mine
- FORCE PIECE—diagonal timbering to secure the ground
- FORE BAY—the reservoir from which water passes directly to a water-wheel.
Penstock
- FORK—(Cornwall) bottom of pump; (Derbyshire) prop for soft ground. A pump is said to be going in fork when the water is so low that air is sucked into the wind-bore
- FORMATION—a series of strata comprising those that belong to a one geological age
- FOSSIL—term applied to express the animal or vegetable remains found in rocks
- FOSSILIFEROUS—containing fossils
- FOSSIKING—*see* “CREVICING”—overhauling old workings and refuse heaps for gold
- FOTHER (North England)— $\frac{1}{2}$ chaldron

FRAME—a sloping board used in the washing of stream tin

FRAME SET—the legs and cap arranged so as to support a passage mined out of the rock or lode

FREE—native, uncombined with other substances

FREE MILLING—ores requiring no roasting nor chemical treatment

FRESHET—a flood or overflowing of a river caused by heavy rains or the melting of snow

FRIABLE—easily powdered

FULLER'S EARTH—an unctuous clay (usually of a greenish-grey tint) compact yet friable. Used by fullers to absorb moisture

FUSE—in blasting the fire is conveyed to the blasting agency by means of a prepared tape or cord called the fuse

FUSIBLE—that can be fused or melted

FUSION—making liquid by heating

G

- GABBRO—name given to a particular kind of rock in which diallage and plagioclase felspar predominates
- GAD—a small iron wedge used in underground mining
- GAL (Cornwall)—hard gossan
- GALE—a grant of mining ground
- GALIAGE—royalty
- GALLERY—a horizontal excavation in a mine
- GAMELLE (Brazil)—wooden bowl for “panning” out gold
- GANGUE—the non-metallic rock material in a lode; matrix, veinstone
- GANGWAY—a main level or any roadway in a mine
- GANISTER—furnace lining composed of fire-clay and ground quartz
- GASHES and GASH VEINS—metalliferous deposits which occur in limestone rocks only, and being confined to a single stratum are necessarily limited in extent; also any wedge-shaped vein terminating in depth within the formation in which it occurs (Fig. 9)
- GATCHES (Cornwall)—micaceous iron ore
- GATE, GATEWAY or GATEROAD—*see* GANGWAY
- GEM—a precious stone
- GEODES—large nodules of stones, hollow in the centre
- GEYSER—eruptions of heated water

- GLACIER—a body of ice which descends from the high to the low ground
GLANCE—literally, shining. Name applied to certain sulphides
GLOBULE—a small substance of a spherical shape
GOAF—worked-out ground, and the refuse with which it is filled
GOB—*see* GOAF
GOBBING—packing with waste rock
GOTHS (Staffordshire)—sudden burstings of coal from the face owing to tension caused by unequal pressure
GOSSAN—quartz rock with iron oxide as stains, or in small cavities. Found on the surface or near the top of a lode
GOUGE (North America)—soft clay lying between the ore body and sides of the lode
GRADE—an ore which carries a great or comparatively small amount of valuable metal is called respectively a high or a low grade ore. Also the amount of fall or inclination of flumes, &c.
GRAIN TIN—purest tin sent into the market
GRANULATED—in the form of grains
GRANZAS (Spain)—poor ores
GRASS—surface
GRASS ROOTS—at the surface
GREDE (Venezuela)—a yellow iron-stained clay
GREENSTONE—general term used to designate green-coloured rocks, as dolerite, gabbro, &c.
GREYWACKE (or GRAUWACKE)—a compact, coarse-grained, grey sandstone rock, frequently found in Palæozoic Formations

- GRIDDLE—coarse sieve for sifting ore
 GROOVE (Derbyshire)—a mine
 GROUAN (Cornwall)—granite
 GROUND DAMP (or GROWAN)—carbonic acid gas
 GROUNDSILL—a log laid on the floor of a drive on which the legs of a set rest
 GROUNDSLUCING—washing alluvial, loosened by pick and shovel, in trenches cut out of the ground rock, using bars of rock as natural riffles. It is used in shallow placers, hill-claims, bank-claims, and stream diggings
 GRUNDY—granulated pig-iron
 GREISEN—an altered granitic rock, grey in colour
 GRIT—a variety of sandstone of coarse texture
 GRIZZLY (America)—bars set in a flume to intercept the large stones. A bar-grating for sizing
 GUAG (Cornwall)—worked-out ground
 GUBBIN—ironstone
 GULCH—a ravine
 GULLY—feeder to a creek
 GULLIES (Cornwall)—worked-out cavities
 GUNNIES (Cornwall)—levels or workings
 GUTTER—lowest portion of an alluvial gold deposit, usually containing the richest auriferous dirt

H

- HACIENDA (Spain)—house where ore is melted
- HADE—dip of a lode or fault, measuring from the horizontal (England) or from the vertical (America)
- HAIARN (Wales)—iron
- HALF-SET—one leg piece and a cap
- HALTER (New Zealand)—a miner working on his own account
- HALVANS—waste of copper ores
- HAND-WHIP—an upright at the top of which is balanced a long sapling, to the thick end of which a bag of earth is fastened to counterbalance a bucket of earth to be raised at the other end
- HANGING-WALL—the upper wall of a lode
- HARD-HEAD—residue from the smelting; contains much iron and arsenic
- HARROW (Australia)—an apparatus used for mixing gold-bearing clays
- HAZLE (North England)—sandstone mixed with shale
- HEAD—pressure of water in pounds per square inch; any subterranean passage driven in solid coal; that part of a face nearest the roof
- HEAD-BOARD—a wedge of wood placed against the hanging wall and against which one end of the stull-piece is jammed
- HEADER—the rock that heads off or delays progress; a blast hole at or above the head; a small drift-way or passage excavated in advance of the main body of the tunnel

HEADING—the heavier portions collecting in a buddle or sluice, as opposed to the tailings; coarse gravel above gold-bearing “wash-dirt”; the vein above a drift, *see* BACK; a level air-way or narrow passage

HEAD-RACE—an aqueduct for bringing a supply of water

HEAVE—*see* FAULT—when the lode stops at the end of a level on account of a cross-course, it is said to be “hove.” Also the horizontal displacement of the faulted portion measured at right angles to the strike

HEAVY-GOLD (Australia)—gold of the size of gun shots

HECHADO (Spain)—the dip of a lode

HEMMA (Sanskrit)—gold

HIGH-REEF—the bed-rock or reef is frequently found to rise more abruptly on one side of a gutter than on the other, and this abrupt reef is called a High-reef

HITCH—a fault of less throw than the thickness of the seam in which it occurs

HOLE—to undercut a seam of coal, &c.; to make a communication from one point to another

HORIZON—strata or beds formed during the same geological period are said to lie in the same horizon

HORN—a hard siliceous rock

HORNSTONE—*see* CHERT

HORSE—term applied to masses of country rock found in a lode

HORSEFLESH ORE—purple copper ore

HUEL—a mine; also WHEAL

HULK (Cornwall)—to pick out the soft portions of a lode

HUNGRY—worthless-looking

HURDY-GURDY—a water-wheel

HUSHING—prospecting by laying ground bare by sudden discharges of pent-up water

HUTCH (Cornwall)—an ore-washing box

HYDRAULICING (West America)—working auriferous gravel beds by hydraulic jets

HYDRAULIC-HORSE (America)—the hose used to conduct a stream of water, the force of which washes down the face of the alluvial gold-bearing deposit

HYDROUS—containing water in its composition

I

IGNEOUS—certain rocks that have been in a more or less fused state. They comprise volcanic and plutonic rocks

IMPREGNATIONS—ore deposits consisting of the country rock impregnated with ore, usually without definite walls (Fig. 10)

INCH MINER'S (America)—varies in different localities. The usual one (which discharges 95 cubic feet per hour) is the amount of water that will flow through a horizontal opening, an inch square under a head of six inches; this is about 593 galls. per hour

INCLINE—a slanting shaft

IN-FORK—*see* FORK

IN-PLACE—of rock occupying, relative to surrounding masses, the position it had when formed

INSET—the entrance of a mine pathway where the cages are loaded

INCRUSTATION—a coating of matter

IRON-SINTER—soft greyish-brown precipitated oxide of iron, often stalactitic

IRONSTONE (Cornwall)—any hard tough stone

IRIDESCENT—showing rainbow colours

IRON HAT—decomposed ferruginous mineral capping a lode

J

JACOTINGA (Brazil)—iron ores associated with gold

JADDING or JUDDING—*see* HOLING

JEWELLER'S SHOP (Australia)—rich patches of gold-bearing matter

JIGGING—a process of sorting ores according to specific gravity, by means of a sieve agitated up and down, usually in water

JOINTS—cracks or partings across the bedding planes of rocks

JUDD—The *whole working*, a portion of coal ready for extraction ; in *pillar working*, the unremoved part of a pillar

JUDGE (Derbyshire & North England)—a measuring staff

JUMP—an up-throw or downthrow of a fault

JUMPING A CLAIM—taking possession of an abandoned or unworked claim by force or otherwise

K

KAL—a coarse kind of iron

KAMN (Cornwall)—fluorspar

KAOLIN—porcelain or china clay ; decomposed felspathic material

KAZEN (Cornwall)—a sieve

KECKLE-MECKLE—poorest lead ore

KEEVE (Cornwall)—a large vat

KERNED (Cornwall)—pyrites hardened by exposure

KEVIL (Derbyshire)—a calcspar found in lead veins

KIBBLE—a mining bucket

KIESELGUHR—infusorial earth, consisting chiefly of fossil diatoms

KILLAS— a name applied in Cornwall to a clay slate or shale through which lodes run.
Clay-slate-knoten—concretions of sandstone with cement of galena occurring
in a sandstone of Rhenish Prussia. Knotten-sandstein—name of bed containing
above concretions

KIND—tender, soft, easy ; likely looking stone

KIRVING (North England)—the cutting made beneath the coal seam

L

LADDER WAY or (LADDER ROAD)—the particular shaft or compartment used for ladders

LAGOON—a shallow lake, pond, or marsh

LAMINA—a thin slice

LAMINATED—arranged in laminae

LAPPOR (Cornwall)—an ore dresser

LAUNDER—water trough

LAVA—rock formed by the consolidation of liquid matter which has flowed from a volcano

LAVADOROS (Spain)—gold washings

LAZYBACK (Staffordshire)—a coal stack

LEACH—to dissolve out

LEAD—LEDGE (America) REEF (Australia) LODE or VEIN (England)—a more or less vertical deposit of ore, formed after the rock in which it occurs; a well-defined bed of alluvial pay-dirt or auriferous gravel

LEADER (DIVIDER)—small vein in rock, the latter impregnated with ore on either side of the leader

LEADINGS (Australia)—the unprofitable dirt above pay-dirt, supposed to lead to a larger deposit

LEAT—water course

LEAVINGS (Cornwall)—halvans

LEDGE—same as a lode

LEG-PIECE—an upright log placed against the side of a drive to support the cap piece

LENTICULAR—of an onion shape (Fig. 11)

LEVEL—horizontal gallery in a mine

LIGNEOUS—of the nature of wood

LIKELY—favourable to the presence of metals

LINING—planks arranged against frame sets

LINNETS (Derbyshire)—greenish or greenish-yellow lead ores

LITHARGE (PROTOXIDE OF LEAD)—used as a flux by assayers

LITTLE GIANT—a movable nozzle attached to hydraulic hose for sluicing purposes

LOAD—a truckful of 22—25 cwt.

LOADSTONE or LODESTONE—an iron ore consisting of protoxide and peroxide of iron, is magnetic ; stone found in veins or loads

LOAM—a mixture of fine sand and clay

LOB OF GOLD (Australia)—rich gold deposit found in an area of small extent

LOCATE—to establish a right to a mining claim

LODE—this term as used in the American Acts of Congress is applicable to any zone or belt of mineralised rock lying within the boundaries clearly separating it from the neighbouring rock ; a body of mineral or mineral-bearing rock so far as it may continue unbroken and without interruption ; usually speaking, a lode is that part of a vein which contains a workable percentage

LODE PLOT—a horizontal lode

LONG TOM—a wooden sluice 24 ft. \times 2 ft. \times 1 ft. used in the washing of gold-bearing "dirt"

LONG WALL—a system of working low beds and seams with long faces, so as to extract all the valuable mineral

LOOB (Cornwall)—sludge from tin-dressing

LUTE—pasty matter to close joints of chemical apparatus, and to coat surfaces so as to protect them from the action of flame

LYING-WALL—*see* FOOTWALL

M

MACIZO (Spain)—the part of a lode unworked

MADE-GROUND—a recent deposit

MAKINGS (North England)—small coal produced in kirving

MALLEABLE—capable of being hammered out

MAN ENGINE—machine by which men ascend and descend a mine

MANTO (Spain)—a single layer of a stratum

MARCO (Spain)—weight = 8 ounces

MARL—clay containing carbonate of lime

MATTE, MATT, or MAT—product of smelting whereby metals are concentrated as sulphides

MATRIX—the mineral associated with ore in a lode ; gangue, veinstone

MEAR (Derbyshire)—82 yards along the vein

MEASURIE—strata of coal or formation containing coal beds

MEERSCHAUM—a white soft mineral, dry to the touch, and adhering to the tongue when licked. Is a silicate of magnesia. Specific gravity, .8 to 1.0 when dry. Occurs in veins or in kidney-shaped nodules in serpentine rocks

MESA—a tableland

METALES CALIDOS (hot metals (South America)—minerals capable of amalgamation, such as native silver, hornsilver, &c.

- METALES FRIOS (cold metals)—minerals not suitable for the amalgamation process
- METALLURGY—art of extracting metals from their ores, &c.
- METAMORPHIC—altered
- METASOMASIS—the complete change of rocky matter into ore by the chemical replacement of one or more of its constituents
- MILLS—works for crushing and treating gold or silver ores by amalgamation, chlorination, &c.
- MINE—mineral workings carried on either in open daylight or underground by artificial light; in law confined to the latter
- MISTRESS (North England)—a miner's lamp
- MOCK-LEAD (Cornwall)—zinc blende
- MOCK ORE—a false kind of mineral
- MOIL (Cornwall)—a wedge-pointed drill
- MONTON (Spain)—a pile of ore. In Mexico a Monton = 17 quintals
- MORPHOLOGICAL—pertaining to the form or shape
- MOTHER LODE—the principal vein of any district; main-lode
- MOUNTAIN BLUE—blue copper ore
- MOUNTAIN CORK—a variety of asbestos
- MOUNTAIN GREEN—malachite
- MOUNTAIN LIMESTONE—carboniferous limestone
- MUCKS (Staffordshire)—bad earthy coal
- MUDSTONE—a fine, more or less argillaceous rock, having no fissile structure, and somewhat harder than clay

MUESTRAS (Spain)—samples or ore

MUFFLE—a small oven-shaped fire-proof furnace

MULLER—the upper grinding or rubbing shoe of an amalgamating pan

MULLOCK (Australia)—debris of the country rock filling a fissure

MUNDIC—iron pyrites

MUSCHELCHALK (German)—a limestone formation containing fossil shells

N

NATIVE—metals that occur in a state of approximate purity are said to be native.

When two or more such metals are mechanically mixed the substance is called a native alloy

NAYS—*see* NOGS

NEVADA TIMBERING—a method of underground working employed in Nevada (square sets)

NICK—to cut or spear coal after holing

NIP—when the roof and floor of a seam come close together pinching the mineral between

NITRATE—compound of a base with nitric acid

NITTINGS—refuse of good ore

NODULE—rounded concretion frequently enclosing organic or other remains

NOGS or NAYS (Cornwall)—supports for the roof of a mine

NUGGETS—natural lump of gold or other metal. Applied to any size above 2-3 dwts. in weight

NUTS—coals of about walnut size

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O

- OFF-TAKE—the raised portion of an upcast shaft above the surface
OITAVO (Spain)—about the eighth part of an ounce
OJO (Spain)—a bunch of ore
OLD MAN—old workings in a mine
ONCA = 422.72 grains Troy
OOLITIC—consisting of small rounded grains (with concentric structure) resembling the roe of a fish ; Roestone
OPEN-CAST—workings having no roof
OPEN-CUT—to commence working after sinking a shaft
OPEN-CUTTING—an excavation made on the surface for the purpose of getting a face wherein a tunnel can be driven
ORE—mineral matter containing useful metal in sufficient proportion to be commercially treated
ORE AGAINST ORE—the approximate parallelism of valuable deposits occurring in parallel lodes (Fig. 12)
ORTHOCLASE—variety of felspar
OUTCROP—the parts of a lode or bed exposed at the surface
OVERBURDEN—soil or rock overlying a bed of useful mineral

OVERHAND STOPING (*see* STOPING)—where the miner excavates the lode above him and has the deads beneath his feet (Fig. 13)

OVERLAP FAULT—*see* FAULT

OXIDATION—conversion of metals into oxides

OXIDE—compound of a metal with oxygen

OXIDIZING—combining with oxygen

P

PACK—rough material built up to support the roof

PACKING (Cornwall)—final dressing of tin or copper ore

PACOS—*see* COLORADOS

PADDOCK—an excavation made for procuring wash-dirt in shallow ground; a place built near the shaft mouth for storing ore

PAINT-GOLD—the very finest gold coating quartz pebbles in cement, or other minerals

PALÆOZOIC—the oldest series of rocks in which fossils of animals occur

PAN—to separate gold from other matter by washing it in a basin is called “panning out”

PANEL—a large rectangular block of coal *in situ*. In panel workings the mine is divided into several panels, each worked by its own board and pillar.

PANNIO—the strata through which a lode passes

PARE (Cornwall)—gang or party of men

PARTING—dissolving by acid the silver from the gold in the button derived by cupellation; a layer of rock in a coal seam

PASS—a hole for throwing down ore to a lower level; a passage for men to travel from one level to another

PASS-BY—a siding in which tubs pass one another underground

PAY DIRT—payable portion of alluvial deposits

PEACH STONE (Cornwall)—a soft greenish rock (chlorite) found in certain lodes.

A peachy lode is often a very good one for tin

PEE (Derby)—a fragment of lead ore

PENSTOCK—*see* FOREBAY

PENTICE — a few pieces of timber laid as a roof to screen men working in dangerous places

PEROXIDE—the oxide which contains the greatest amount of oxygen

PETER-OUT—to pinch out or disappear (said of a vein)

PICUL (China)—a weight of 133½ lbs.

PILE (Australia)—to “make a pile” is to make a lot of money

PILING—to sink a shaft through drift by driving piles down behind frames of timber

PILLION (Cornwall)—metal remaining in slag

PILLAR & STALL — working seams or beds by first leaving blocks of ore to support the roof, and then robbing them

PINCH OUT (To)—when a lode diminishes to nothing

PIPING—washing gold deposits by means of a hose.

PIPE VEINS—ore bodies that, upon being excavated, leave small chimney-like openings; a horizontal extension of a lode

PITCH (Cornwall)—the part of a lode let out to be worked on tribute; the angular inclination of a reef in the direction of the strike is called its pitch

PLACER—an auriferous alluvial deposit

PLANT—all the machinery in use at a mine or works

PLASTIC—that can be moulded into different forms

PLAT—an enlargement in the shaft for various purposes

PLATE—black shale, a slaty rock

PLATEAU—flat table land

PLUM (Wales)—lead

PLUMBAGO—graphite or black lead

PLUSH COPPER—chalcotrichite, suboxide of copper

PLUTONIC—igneous rocks that have solidified under pressure below the earth's surface

PNEUMATOLYSIS—metasomatic replacement of minerals by metallic vapours.
Term introduced by Vogt.

POCKET—a single deposit of mineral, not a vein

PODAR (Cornwall)—copper pyrites

POLROZ (Cornwall)—water-wheel pit

POPPET HEAD—the hoisting gear frame over a shaft

PORPHYRITIC—of the nature of porphyry, that is, with isolated crystals visible to the eye

POST—limestone strata divided horizontally with very thin beds of shale

POST-AND-STALL—a mode of working coal in which so much is left as pillar and so much is taken away. Also called BORD-AND-PILLAR, PILLAR-AND-BREAST

POT GROWAN (Cornwall)—decomposed granite

PRAIRIE—name given in some parts of North America to an extensive treeless plain

PRECIPITATE—name given to solid matter which is separated from a solution by the addition of reagents, or by exposure to heat

PROSPECT—the yield of gold by panning; to seek for minerals

PRIAN (Cornwall)—soft white clay

PRILL (Cornwall)—the best ore after cobbing

PROSPECTOR'S CLAIM—a piece of ground larger than an ordinary claim, given to the discoverer of mineral treasures in a country

PUDDING STONE—a coarse conglomerate with round pebbles in it

PUDDLING (Australian and America)—mixing gold-bearing clays with water

PULP—crushed wet ore

PULVERISE—to powder

PYRITES—mineral composed of a metallic (usually iron) sulphide

PYROXENE—a group of minerals of which augite is the chief member

PURSER (Cornwall)—the cashier and paymaster at the mine

PUTTY STONES (America)—soft pieces of decomposed rocks found in alluvial diggings

Q

QUARTZ—silica or oxide of silicon, often coloured by impurities

QUARTZITE—a granular siliceous sandstone (sometimes of a schistose structure),
the grains of quartz being partly crystalline

QUARTZOSE—rock with a great deal of quartz in it

QUICK—productive ; mercury in a fit state for amalgamating

R

RABBAN (Cornwall)—yellow dry gossan

RACK (Cornwall)—a stationary buddle

RACE—a channel for conducting water to or from the working spot. The former is termed a head race, the latter a tail race

RACKING—separating ores by means of water on an inclined plane

RAFFAIN (Cornwall)—poor ore

RAG BURNING (Cornwall)—the first roasting of tin-witts

RAGGING (Cornwall)—rough cobbing

RAISE—*see* RISE

RAKE—a fissure vein

RAMBLE (North England)—shale bed overlying coal

RAVINE—a deep narrow valley

RAW ORE—unroasted ore ; calcined ore before cooling

REAGENT—a substance added to determine the presence of some other substance by the mutual action of the one towards the other

REDUCTION—the separation of a metal from its compounds

RED RAB (Cornwall)—red slaty rock

REEF (Australia)—a lode. Outcrop of strata

REEF WASH—gold-bearing drift where two under-ground leads join

REFRACTORY—rebellious, not easily treated by amalgamation or ordinary processes

REGULUS—*see* MATTE

RESERVE—ore already opened up which may be quickly broken down for treatment

RESIDUE—the solid matter remaining after a liquid has been filtered or evaporated

REVERBERATORY—furnace in which the flame from the grate is reflected down by the roof on to the charge on the bed of the furnace

RIBB—lines of ore in the veins

RICK (North America)—open heap in which coal is coked

RIDER—*see* HORSE

RIDDLE—a large iron sieve for sifting ore

RIFFLES or RIPPLES—strips of wood, &c., fixed across and rising above the bottom of a sluice, in order to catch the gold during the process of washing; mercury may or may not be used, in the latter case the riffles are called “blind”

RIMROCK—bed rock forming a boundary to gravel deposit or placer

RING ORES (COCKADE ORES)—metallic sulphides deposited regularly around vein inclusions

RISE—the working place at the end of a level, the floor being above the general working level; a winze reversed or excavated upwards

ROASTING—driving off volatile matter, such as sulphur, arsenic, &c., by gently heating the substance and allowing air to have free access to it during the operation by means of stirring

ROCK-FILLING—the filling up of worked out portions of a mine with rock, to support the mass above the levels

ROOF—the layer immediately above a metalliferous bed

ROTTEN REEF—In South Africa, a soft deposit found in connexion with auriferous conglomerate

ROUGHES—the second, or inferior quality of cross tin

RULLERS (Cornwall)—persons who work the wheelbarrows underground

RUN—course of a vein ; collapse of ground in a mine. Ore is spoken of as running so much metal per ton

RUSTYGOLD—gold coated with iron oxide

S

- SADDLE—strata bent upwards into a ridge, with the concavity away from the centre of the earth (anticlinal)
- SALAMONIAC—ammonium chloride
- SALT (chemical)—the combination of an acid with a base
- SALTING A MINE—introducing mineral matter into a mine to deceive purchasers
- SAMPLE—specimens of ore for assaying
- SCAD (America)—uncommon name for a nugget
- SCALL—loose ground
- SCHISTS—metamorphic rocks showing a peculiar foliated (schistose) structure
- SCOVAN (Cornwall)—a tin lode showing no gossan at surface
- SCOVE (Cornwall)—purest tin ore
- SCRIN—smallest kind of vein
- SCROWL (Cornwall)—loose ore where a vein is crossed
- SEAM (Cornwall)—a loose load of ore ; stratum or bed of coal or mineral ; it is convenient to consider as “Seams” any stratified deposits in which the impregnated, altered, or pseudomorphous mass occupies the position of an original bed, and to call the sheets “Veins” when they cross the bedding planes, or occupy a fissure, or have been formed by impregnation or metasomasis
- SEAT—bottom of a mine

SECONDARY ROCKS—those older than the Tertiary and newer than the Primary

SECTILE—easily cut

SEDIMENTARY ROCKS—deposit of sand, clay, mud, &c., from water, also of volcanic ash

SELVAGE or FLUCAN (America)—an unctuous clay sometimes slickensided or scored, which extends along one or both sides of the walls of a lode

SET OF TIMBER—timbers used in a level, consisting of a ground sill, cap-piece and two legs

SHADD (Cornwall)—rounded fragments of ore overlying a vein

SHAFT—a vertical or inclined excavation in a mine

SHAKES—caverns in lead mines; cracks or fissures

SHALE—indurated fine-grained rock with fissile structure

SHELF—the rock on which drifted matter rests

SHEPHERDING (Australia)—doing just as little work on the mine as is required by mining law

SPHERULITIC ORES—segregated ores with radial crystalline structure

SHET (Staffordshire)—fallen roof of coal mine

SHIFT—time during which men work in a mine

SHOAD (Cornwall)—*see* SHAD

SHODING (Cornwall)—prospecting; tracing pieces of detached veinstones to the parent lode

SHOES—movable iron block, at the lower end of a stamp

SHOOT (SHUTE, CIIUTE)—an ore body forming a continuous column, frequently occurring at the intersection of veins; a path down which mineral is tipped

- SHOT—the firing of a blast
 SHOTTED GOLD—granular pieces of gold like shot
 SICKENING—coating of impurity on quicksilver, breaking the latter into fine globules and retarding amalgamation
 SIDELONG REEF—the overhanging wall of bedrock in alluvial formations running parallel with the course of the gutter
 SADDLE—inclination
 SILICA (Oxide of Silicon)—quartz, flint, sand, &c., are nearly pure silica
 SILICATE—compound of a basis with silicic acid
 SILICEOUS—containing silica
 SILL—a piece of wood across the bottom of a drive, on which the legs of a set stand
 SINK—an excavation under a level. To “sink” is to excavate downwards in a mine
 SINTER (Siliceous)—a silica formation deposited from thermal waters
 SKIMPINGS (Cornwall)—the poorest ore skimmed off the jigger
 SKIP—a box for raising ore
 SKIT (Cornwall)—a pump
 SLACK—small coal ; (Derbyshire) mud in a mine
 SLAG—vitreous mass which covers the fused metal in the smelting hearths. In iron-works it is called cinder
 SLANT—a heading driven diagonally between the dip and the strike of a coal seam, also called a RUN
 SLEEPING-TABLE (Cornwall)—a buddle
 SLICKENSIDES—name given to smooth striated surfaces of rocks or of mineral lodes

SLIDE—*see* FAULT

SLIME ORE—finely crushed ore mixed with water to the consistency of mud of slime

SLIMES—most finely crushed ore pulp

SLIP—*see* FAULT

SLOVAN—the “cropping out” of a lode or stratum

SLUDGE—*see* SLIMES

SLUICE—a long channel in rock or of timber, with checks to catch gold

SLUICING—working gravel by excavating and washing by water in sluices

SLURRY (North Wales)—half melted ore

SMALLS—small-sized pieces of ore and gangue

SMEDDUM—lead ore dust

SMUT (Staffordshire)—soft bad coal

SOLLAR (Cornwall)—platform or landing fixed in shaft for ladders to rest on

SOWS—deposits of haid

SOLE—bottom of a level, or of a mine

SPALL—to hand-break ore for dressing

SPAR (Cornwall)—quartz

SPATHIC—sparry. Term applied to certain carbonates

SPEISS (SPEISE)—fused combinations of arsenic with some metal, such as iron, copper, &c.

SPIEGELEISEN—variety of highly-carbonised pig-iron, containing 1–20 % of manganese

SPILLS (Cornwall)—a temporary lagging driven ahead on levels in loose ground

SPITZKASTEN—a pyramidal box through which a current of water rises, used for sizing and concentrating ores

SPITZLUTTEN—hydraulic ore concentrators

SPOTTED (American)—leads in which the gold is irregularly disseminated

SQUAT (Cornwall)—tin ore mixed with spar

STALACTITIC—like a stalactite (of the form of a cylinder or cone), as the carbonate of lime incrustations hanging from the roof of limestone caverns. Stalagmites are the similar column or cones which are on the floor of the caverns

STAMP—a weight used for crushing ore

STANNIFEROUS--containing tin

STANDAGE—pump reservoir

STANNARY—tin works

STEATITE—a mineral usually of a greenish colour and soapy to the touch containing much talc

STEP-FAULTS—*see* FAULTS

STOCKWORK—rock through which a number of small veins occur together

STOPE—to excavate mineral in a series of steps up or down. (Overhand and underhand, stoping respectively)

STOWING—a method of mining by removing all the material of the vein, and packing the waste into the space left

STRAKE—an inclined board used in the separation of gold from small quartz

STRATIFIED—made up of parallel beds, layers, or strata of sedimentary, chemical, or organic origin; rocks in which no such structure exists are termed Unstratified

- STRATUM—a bed or layer
STREAK—the colour of a mineral when scratched
STREAMWORKS—alluvial or other detritus washed for tinstone.
STRIKE—the straight line in which the plane of a bed or lode cuts the plane of the horizon
STRING—a thin course of ore
STRIPPING—working a vein by quarrying
STRUCTURE—the arrangement of the grains or component parts of a mineral
STUDDLES—timber props
STUFF—ore associated with the gangue of a lode
STULL—platform to carry miners or waste
STUP—powdered coke or coal mixed with clay
STURT—a tribute bargain profitable to the miner
STYTHER (North England)—choke-damp
SUBLIMATE—the matter formed by condensed vapour when a mineral is heated
SUBMETALLIC—of imperfect metallic lustre
SUBTRANSPARENT—of imperfect transparency
SULPHATE—a salt containing sulphuric anhydride
SULPHIDE—a combination of metal with sulphur
SUMPS—pits sunk below the foot of mining shafts for the purpose of draining
SUN VEIN—a vein running in a southerly direction
SWAD (Derbyshire)—a thin layer of stone or refuse coal at the bottom of a coal seam
SWEEPING-TABLE—a stationary buddle

SWITHER (North America)—a crevice branching from a main lead lode

SWEET ROAST—the removal by roasting of the whole of the sulphur in an ore

SYMPHYTIC—used of ore deposits as were formed simultaneously in a geological
sense with the surrounding rock

SYNCLINAL—*see* TROUGH

T

TABLE LAND—an elevated plain or plateau

TAILINGS—the gangue matter left after it has been washed or otherwise worked for metal—a cubic yard usually contains about 1.35 tons

TAIL RACE—an aqueduct for conveying away dirty water and tailings

TERRACE—successive levels formed by a river sinking in its course

TEARY GROUND—ground easily broken up or worked

TEEM—to pour, or tip

TERRERO (Spain)—waste heap of a mine

TERTIARY ROCKS—those of the most recent formation, and above the Secondary and Primary

THERMAL—hot springs

THILL (North England)—floor of coal mine

THROW—the amount of displacement produced by a fault, measured vertically, is called its throw, and is often spoken of as an upthrow or downthrow, according to the side on which is approached by the miner

THURL (Staffs)—to cut through from one working into another

TICKETING (Cornwall)—purchasing ore by tender on tickets

TIN-WITTS (Cornwall)—product of first dressing of tin ores, containing also wolfram and sulphides

- TINSTONE—ore containing small grains of oxide of tin ; tin ore
- TIN STUFF—ore obtained from a tin lode
- TIPPLER—waggon for conveying and tipping ore ; apparatus for effecting the same
- TOAD STONE, or BLACKSTONES (Derby)—dense, hard trap rocks, usually unproductive
- TON—long ton, 2,240 lb. ; short ton, 2,000 lb. ; 50 cubit feet of wood ; about 13 cubic feet of unbroken quartz, or 20 cubic feet if broken
- TOSSING—shaking powdered ore in water to effect separation of heavy and light particles
- TOURMALINE—a gem, variously coloured, found sometimes in large transparent crystals in granite, metamorphic rocks, limestone, soapstone, &c.
- TRACHYTE—a volcanic rock containing felspar, hornblende and sometimes mica. Has a rough surface when broken
- TRANSLUCENT—allowing light to pass through, yet not transparent
- TRAP—a volcanic rock ; generally grey or greenish ; diorite, dolerite, basalt are varieties
- TRAPPEAN ROCKS—certain rocks (such as basalt, &c.) which form in terraces
- TRELOOBING (Cornwall)—stirring the slimes in water
- TREND—the course of a vein
- TRIBUTE—when miners work on tribute, their recompense is a certain percentage of the profits derived from the produce of the mine
- TRIBUTERS—miners paid by results
- TROMMEL—a punched revolving cylinder used for washing and sorting ores
- TROUBLE—*see* FAULT

- TROUGH—strata bent downwards with the concavity towards the centre of the earth, forming inverted saddles (Fig. I, D)
- TROUGH FAULT—two faults in contrary directions of about the same angle form a trough fault (Fig. 14)
- TUBBING—the cast iron, or timber, or walling of a shaft to keep back water
- TUCKER GROUND (Australia)—poor ground, just rich enough to allow a miner to buy food and the bare necessities of life
- TUFA (Calcareous)—a kind of limestone rock deposited by water containing carbonate of lime; usually porous. (Volcanic)—a rock made up of fragments of ash or other volcanic matter, more or less cemented together
- TURBARY—a peat bog
- TUT-WORK—work paid for by the piece not by results. *See* DEAD WORK
- TWYER or TUYERE—the aperture through which the air or blast is introduced into a furnace
- TYE—the point where two veins cross; also an adit

U

UNCONFORMABLE—when the layer of rock resting on another does not correspond with it in the angle of bedding

UNDERCUT—to hole

UNDERHAND STOPING—where the miner excavates the lode below him, and throws the deads up on to staging erected behind him (Fig. 15)

UNDERLIE—underlay or hade; the length of the horizontal line drawn from the vertical and cutting the lode at a distance of 6 feet measured along the dip; also the angular inclination or hade of the lode from the vertical; the underlie is the complement of the dip; thus a plane that dips 60° will underlie or hade 30°

UNSTRATIFIED—not arranged in strata

UPCAST—shaft through which return ventilating air ascends

V

VADOSE—superficial

VAMPING—the deads or *debris* of a stope

VAN—to dress or concentrate ore by hand or machine

VANNING—washing “tin-stuff” by means of a shovel. *See* VAN

VEND (North England)—total sales of coal from a mine

VEINS—somewhat tabular or sheet-like deposits, formed more or less since the enclosing rock (country). Veins are either the contents of fissures ; or bands of rock, impregnated with ore, adjacent to fissures ; or portions of the original rock of which the constituents have been replaced by new mineral. Veins may occur in stratified or in unstratified rocks, and in the former they usually cut across the planes of bedding. The term “True Fissure Vein” is applied to the mineral contents of a distinct gap in the earth’s crust, between two fracture planes, probably caused by contraction, compression, or torsion. The depth to which such a plane of fracture can extend is placed by Heim at 15,000 feet, It is certainly deeper than the probable sphere of mining operations.

VEIN STUFF or VEIN STONE—ore associated with gangue

VESTRY (North England)—refuse

VINNEY—copper ore with green coating

VITREOUS—glassy

VOLATILE—capable of easily passing off as a vapour

VOLCANIC—igneous rocks that, like recent lavas, hardened near the surface

VUGH—a cavity in a rock or lode. *See* GEODE

W

WALE (North England)—hand-dressing coal

WALLS—the boundaries of a lode : the upper one being the “hanging,” the lower the “foot-wall”

WASHDIRT (America and Australia)—auriferous gravel, sand, &c.

WASH OUT or DUMB FAULT—the denudation of a portion of a bed, by a current, during the general period of deposition

WEATHERING—the disintegrating action of atmospheric agents

WEELDON—old ironstone workings

WHEAL—*see* HUEL

WHIM—an apparatus for drawing the ore of a mine up the shaft

WINZE—a shaft sunk from level to level

WHIP—a winding pulley

WHITS—*see* TIN-WITTS

WILD-LEAD—zinc blende

WYTHERN (Wales)—lode

Y

YELLOW ORE (Cornwall)—chalcopyrite; copper pyrites

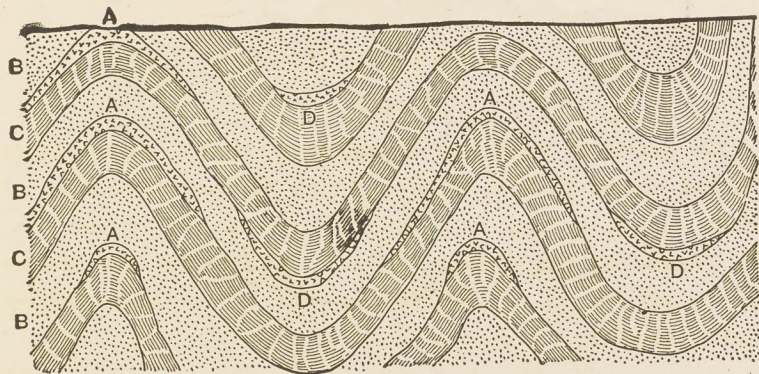
Z

ZEOLITES—certain hydrous silicates of alumina (with alkali, &c.) They swell up and boil when exposed to the heat of a blowpipe flame

ILLUSTRATIONS.

The author is indebted to the courtesy of Messrs. MACMILLAN & Co. and Messrs. E. & F. N. SPON for the following illustrations, of which Figs. 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, and 14, are from "A Treatise on Ore Deposits" (by J. A. PHILLIPS and HENRY LOUIS), and Figs. 5, 13, and 15, are from "The Miners' Pocket Book" (by LOCK).

Fig. I.



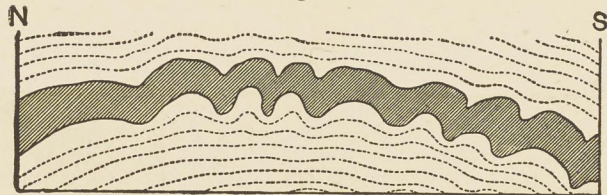
A.—Saddle Reefs.

B.—Sandstone.

C.—Slate.

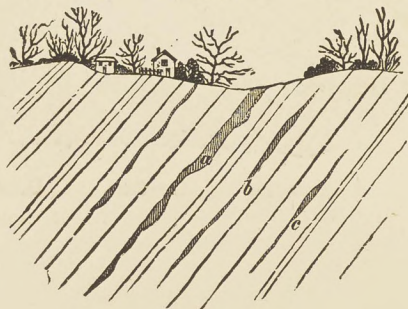
D.—Inverted Saddles.

Fig. 2.



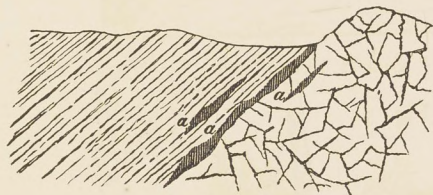
"Barrel" Quartz Vein.

Fig. 3.

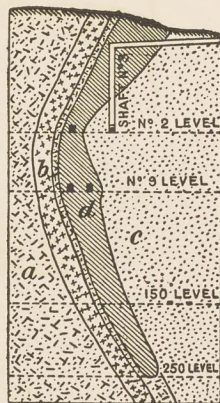


Bedded Veins.

Fig. 4.

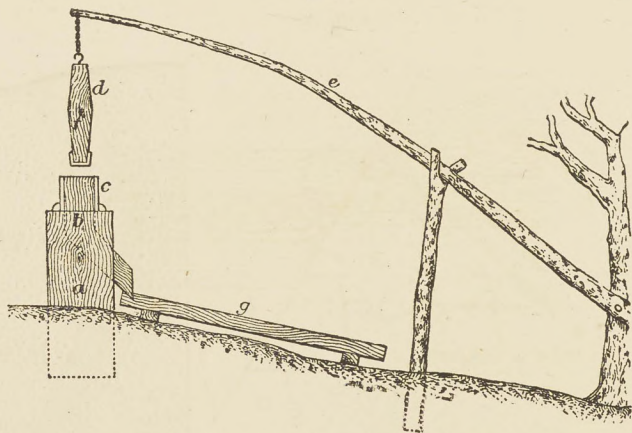


Contact Deposits.



a Contact Deposit.

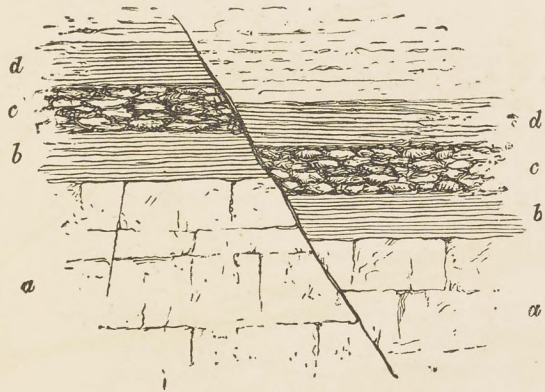
Fig. 5.



Dolly, or Prospecting Stamp.

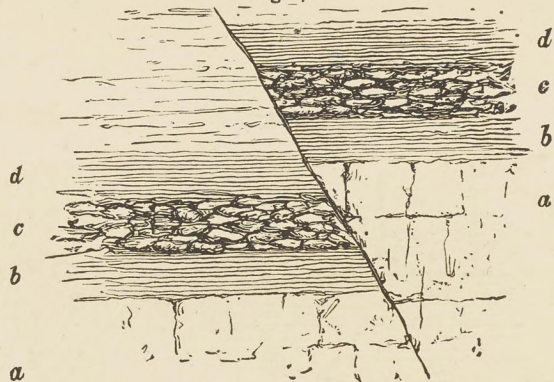
a b c The Mortar ; *d f* Stamper ; *e* Working Lever ;
g Plate or Blanket-table.

Fig. 6.



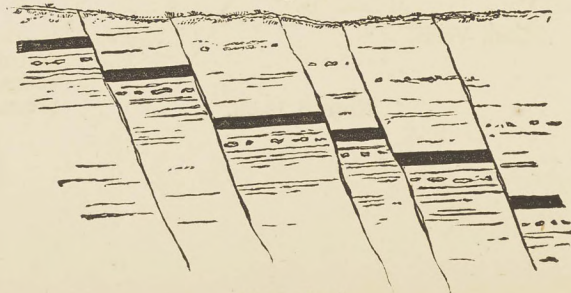
Normal Fault.

Fig. 7.



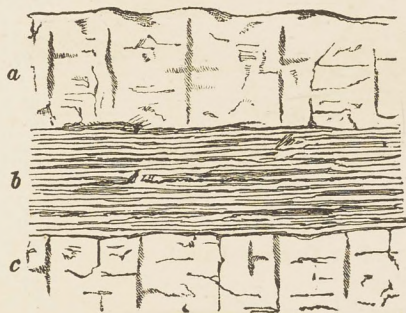
Overthrust, Reversed or Overlap Fault.

Fig. 8.



Step Fault.

Fig. 9.



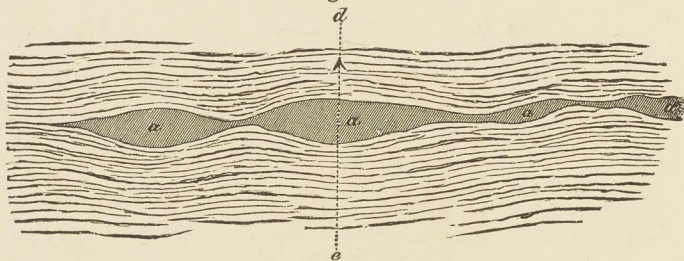
Gash Veins.

Fig. 10.



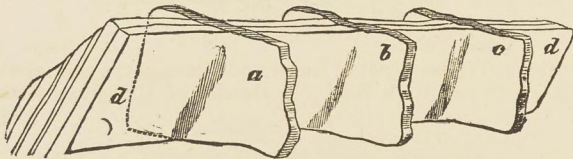
a b Vein—the adjacent dotted portion being an impregnation.

Fig. 11.



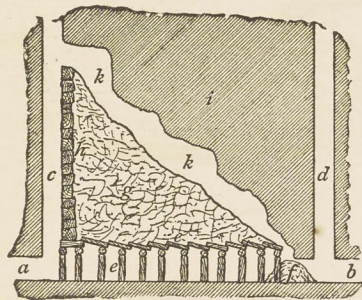
Lenticular Deposits.

Fig. 12.



Ore against Ore.
a b c Veins ; *d* The Country Rock.

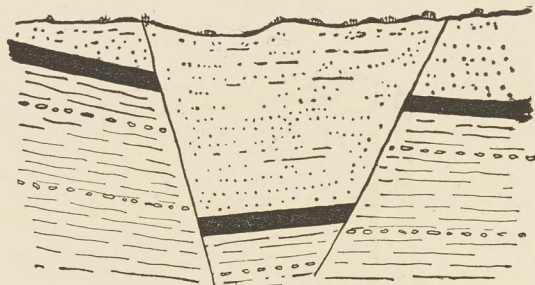
Fig. 13.



Overhead Stoping.

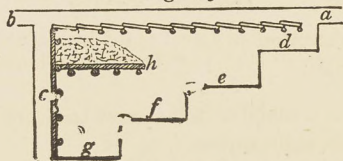
a b Level; *e* Timber Roof of Level and Floor of the Stopes; *d* Winze;
c Timber or Pack Wall; *g* Deads; *i* Unworked Ground.

Fig. 14.



A Trough Fault.

Fig. 15.



Underhand Stopping.

a b Main Level; *d e f g* Steps or Stopes; *h* Staging for the Deads.

GEOLOGICAL MAPS.

GEOLOGICAL SURVEY MAP SIGNS.

(a) Connected with Stratification.





+	Horizontal.
— —	Vertical (longest line on the strike).
×	Undulating.
∞	Contorted.]
↗↘	Highly inclined
↗↘	Undulating
↗↘	Contorted
↗↘	} With general dip in the direction of the arrow.
↗↘	
↗↘	
↗↘	Anticlinal axis.
*	Synclinal axis.
↘	Dip from observation (with No. of degrees, thus ↘ 5°).
↘	Dip from information.
/	Cleavage.
⊙	Limestone quarries.
S. Q.	Slate quarries.

Interrupted Lines = A doubtful or drift-covered boundary.






White Lines = Faults at the surface.

Yellow Lines = Faults underground.








Thick Black Lines = Coal crops. When doubtful, lines interrupted.

-  Bore hole.
 Mine shaft.
 DH Day hole (entrance to adit).
 Colliery levels.

(b) Connected with Glacial Drift.

-  Roches moutonnées.
 " " striated } Direction of Ice-flow not
 Flat surface " } apparent.
 Roches moutonnées " } Showing direction of Ice-
 Flat surface " } flow.

(c) Indicating Ores of Metals.

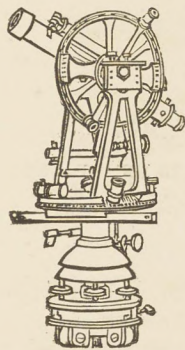
- | | |
|---|--|
|  Gold. |  Silver. |
|  Copper. |  Tin. |
|  Lead. |  Manganese. |
|  Iron. |  Zinc. |

Gold Lines = Mineral Veins.*Gold Dots* = Stream Tin.*Gold Rings* = Pipe Veins.

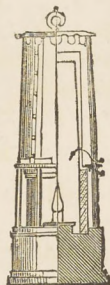
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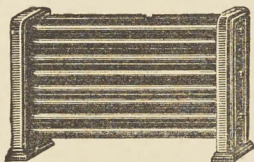
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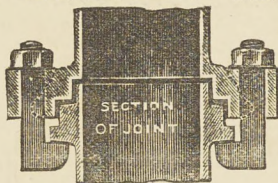
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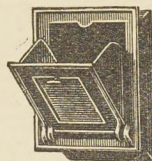
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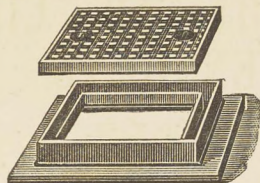
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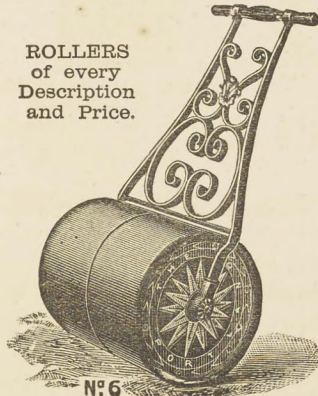
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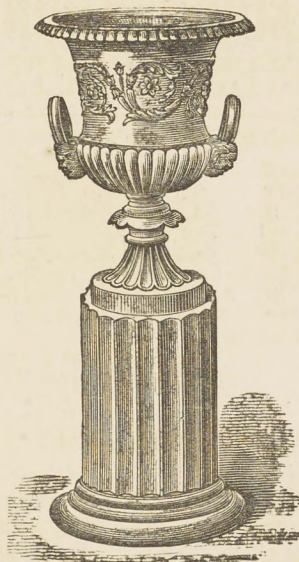


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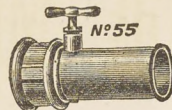


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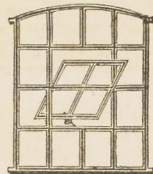
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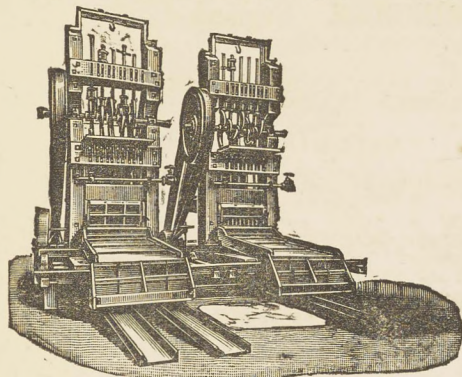
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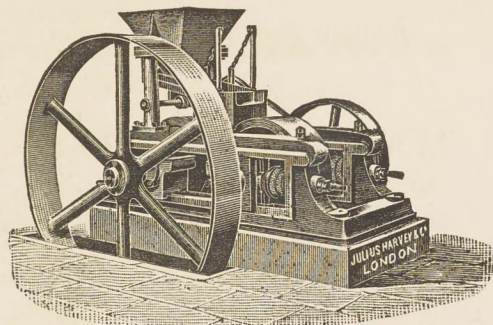
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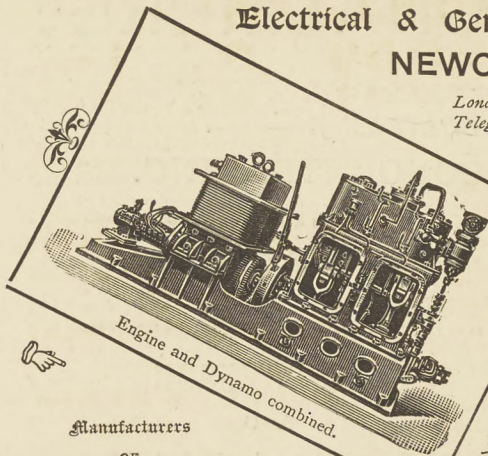
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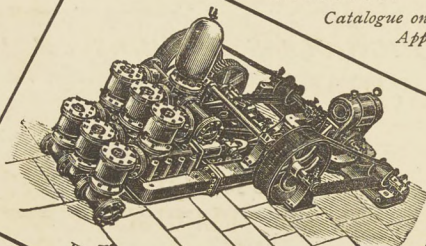


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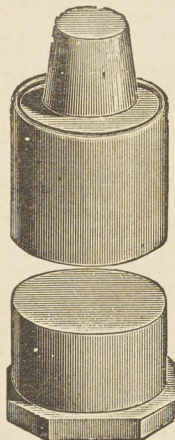
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